



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,516	05/25/2005	Roger Salmon	70127	5166
26748	7590	10/22/2007	EXAMINER	
SYNGENTA CROP PROTECTION, INC. PATENT AND TRADEMARK DEPARTMENT 410 SWING ROAD GREENSBORO, NC 27409			SCHLIENTZ, NATHAN W	
ART UNIT		PAPER NUMBER		
1616				
MAIL DATE		DELIVERY MODE		
10/22/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/536,516	SALMON ET AL.
	Examiner	Art Unit
	Nathan W. Schlientz	1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 25 May 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-12 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 5/25/05, 11/1/06.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Status of Claims***

Claims 1-12 are pending. Therefore, claims 1-12 are examined herein on the merits for patentability. No claim is allowed at this time.

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: the second line of the R<sub>3</sub> and R<sub>4</sub> moieties states, "...their combined total of carbon atoms...". However, it is believed by the examiner that Applicants intended to state, "...their combined total number of carbon atoms...".
2. Claim 9 is objected to because of the following informalities: the instant claim contains 3 sentences. Each claim begins with a capital letter and ends with a period. Periods may not be used elsewhere in the claims except for abbreviations. See *Fressola v. Manbeck*, 36 USPQ2d 1211 (D.D.C. 1995), and MPEP 608.01(m). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, claim 1 recites, "A compound of *the general* formula (I)". However, the terminology "the general" formula is indefinite, and thus the metes and bounds of the instant claims are not clearly defined.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 9 recites the broad recitation "R<sub>1</sub> is methyl, ethyl, *n*-propyl, ...", and "R<sub>5</sub> is hydroxymethyl,

methoxymethyl, 1-methoxyethyl, ...”, and the claim also recites, “Preferably R<sub>1</sub> is ethyl”, and “Preferably R<sub>5</sub> is methoxymethyl or 3-cyanopropyl”, which is the narrower statement of the range/limitation.

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the method steps for the preparation of a compound of general formula (I).

### ***Double Patenting***

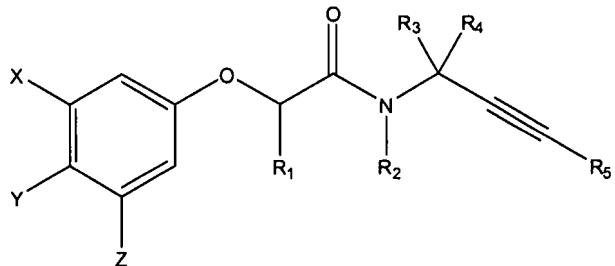
The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

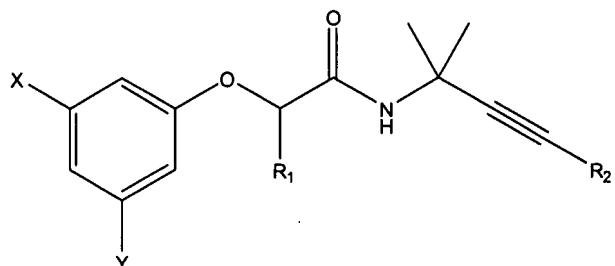
1. Claims 1-9 and 11-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 10/536,515 in view of U.S. Patent No. 4,146,387 (hereinafter Thiele).

Applicants claim a compound according to the formula:



Applicants also claim a composition comprising said compound, and a method of combating or controlling fungi by applying said compound.

The '515 patent application claims a compound according to the formula:

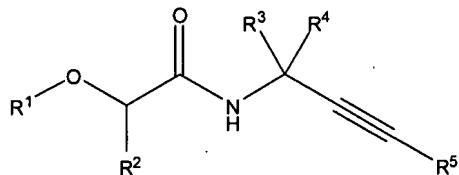


The '515 patent application also claims a composition comprising said compound, and a method of combating or controlling fungi by applying said compound.

The X, Y, Z, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> substituents of the instant claims overlap with the corresponding X, Y, and R<sub>1</sub> substituents of the '515 patent application. However, the R<sub>2</sub> substituents of the '515 patent application is limited to methyl or ethyl, whereas the R<sub>5</sub> substituents of the instant application is optionally unsubstituted propyl or butyl or substituted C<sub>1-4</sub> alkyl, as well as other possible moieties. Therefore, the R<sub>5</sub> substituents

of the instant claims is not exactly the same as the R<sub>2</sub> substituents of the '515 patent application claims.

However, Thiele disclose herbicidal compounds of the formula:



wherein R<sup>1</sup> is 3,5-dichlorophenyl or 3,5-dimethylphenyl, and R<sup>5</sup> is C<sub>1-4</sub> alkyl, and the R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> substituents overlap with both the instant claims and the '515 patent application.

Therefore, it would have been *prima facie* obvious for one of ordinary skill in the art to use C<sub>1-4</sub> alkyl at the R<sup>5</sup> position of the instant claims and the R<sup>2</sup> position of the '515 patent application claims because Thiele discloses compounds wherein the same position is C<sub>1-4</sub> alkyl, and the compounds are used for the same purposes as both the instant claims and the '515 patent application claims.

This is a provisional obviousness-type double patenting rejection.

#### ***Claim Rejections - 35 USC § 102***

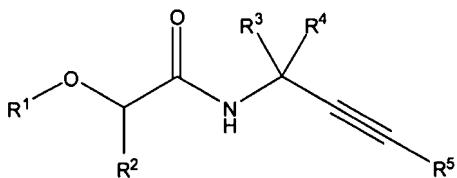
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-8 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Thiele.

Thiele discloses a compound of the formula:



in which

R<sup>1</sup> is most preferably 3,5-dichlorophenyl or 3,5-dimethylphenyl;

R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup> are preferably independently selected from the group consisting of methyl and ethyl; and

R<sup>5</sup> is preferably hydrogen or methyl (column 1, lines 1-24 and 50-63; and claims 1-3 and 14-16).

Thiele also discloses the compounds N-(1,1-dimethyl-2-butynyl)- $\alpha$ -(3,5-dichlorophenoxy)butyramide and N-(1,1-dimethyl-2-butynyl)- $\alpha$ -(3,5-dimethylphenoxy)-butyramide (column 2, lines 32-40; and claims 5-10 and 18-23). Thiele further discloses that said compounds are known herbicides (column 2, lines 32-33), and are incorporated into compositions (claims 1-3 and 5-10) used in a method for controlling undesired vegetation by applying to the locus where control is desired (claims 14-16 and 18-23).

It is noted that Thiele does not explicitly disclose the composition being used to combat or control phytopathogenic fungi by applying said composition to a plant, to a seed of a plant, to the locus of the plant or seed or to soil or any other plant growth

medium. However, Thiele does disclose a method for controlling undesired vegetation by applying said composition to the locus where control is desired (claims 14-16 and 18-23). The examiner respectfully points out the following from MPEP 2112: "The discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). In *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004), the court stated that "just as the discovery of properties of a known material does not make it novel, the identification and characterization of a prior art material also does not make it novel." Therefore, the method of Thiele inherently combats or controls phytopathogenic fungi.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1,148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,272,844 (hereinafter Easton et al.).

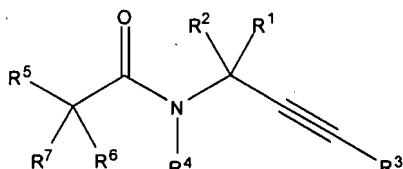
**Applicant claims:**

Applicants claim a compound of formula (I) (instant claim 1). Applicants further claim R<sub>1</sub> is ethyl and R<sub>2</sub> is H.

***Determination of the scope and content of the prior art***

**(MPEP 2141.01)**

Easton et al. disclose a compound of the formula:



in which

R<sup>1</sup> and R<sup>2</sup> are independently lower alkyl;

R<sup>3</sup> is lower alkyl;

R<sup>4</sup> is hydrogen or lower alkyl;

$R^5$  is phenoxy, mono- or di-substituted phenoxy, wherein the substituents are methyl, trifluoromethyl, or halo; and

$R^6$  and  $R^7$  are hydrogen, methyl or ethyl,

wherein lower alkyl refers to methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, or t-butyl (column 1, lines 1-38; claim 1).

***Ascertainment of the difference between the prior art and the claims***

**(MPEP 2141.02)**

Easton et al. do not explicitly teach the  $R_6$  being H and  $R_7$  being ethyl, and  $R_4$  being H as instantly claimed. However, Easton et al. do teach that  $R^6$  and  $R^7$  are selected from the group consisting of hydrogen, methyl or ethyl, and  $R^4$  is selected from the group consisting of hydrogen or lower alkyl (column 1, lines 28 and 35; and claim 1).

Also, Easton et al. do not teach the position of the mono- or di-substituted phenoxy substituents. However, Easton et al. teach the substituents are selected from the group consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, or t-butyl, and provides examples wherein the phenoxy moiety is substituted with 3-halo, 3-methyl, 3,4-dichloro, 3,4-dimethyl, and 3,4-ditrifluoromethyl substituents.

Also, compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH<sub>2</sub>- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). See also *In re May*, 574 F.2d 1082, 197 USPQ 601

(CCPA 1978) (stereoisomers *prima facie* obvious). See also MPEP § 2144.09, paragraph II.

**Finding of *prima facie* obviousness**

**Rational and Motivation (MPEP 2142-43)**

Therefore, it would have been *prima facie* obvious for one skilled in the art at the time of the invention to make a compound according to Easton et al. wherein R<sup>6</sup> is H, R<sup>7</sup> is ethyl, R<sup>4</sup> is H, and the R<sup>5</sup> is a mono- or di-methyl, trifluoromethyl, or halo substituted phenoxy with the substituents at the 3-, 4-, and/or 5-positions.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

2. Claims 1-7 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,116,677 (hereinafter Walker '677) in view of Thiele.

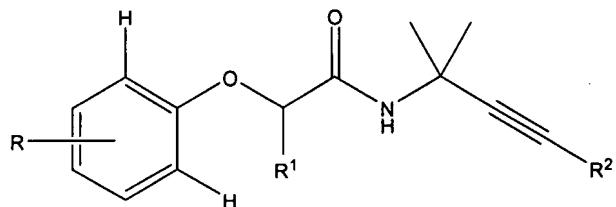
**Applicant claims:**

Applicants claim a compound of formula (I) (instant claim 1). Applicants further claim R<sub>1</sub> is ethyl and R<sub>2</sub> is H.

***Determination of the scope and content of the prior art***

**(MPEP 2141.01)**

Walker '677 teaches compounds of the formula:



in which

R is selected from the group consisting of trifluoromethyl, dimethyl, chloro, and dichloro, and preferably 3,5-dimethyl or 3,5-dichloro;

R<sup>1</sup> is methyl or ethyl, preferably ethyl; and

R<sup>2</sup> is methyl or ethyl, preferably methyl (column 1, lines 23-43; and claims 1-5).

Walker '677 also teaches the compounds N-(1,1-dimethyl-2-butynyl)-2-(3,5-dimethylphenoxy)butyramide, N-(1,1-dimethyl-2-butynyl)-2-(3,5-dichlorophenoxy)butyramide, N-(1,1-dimethyl-2-butynyl)-2-(m-trifluoromethylphenoxy)butyramide, N-(1,1-dimethyl-2-butynyl)-2-(m-chlorophenoxy)butyramide, N-(1,1-dimethyl-2-pentynyl)-2-(3,5-dimethylphenoxy)butyramide, and N-(1,1-dimethyl-2-pentynyl)-2-(3,5-dichlorophenoxy)butyramide (columns 4-6; and Table 1, Examples 1-6).

Walker '677 further teaches that the abovementioned compounds are effective herbicidal agents and teaches pre-emergence and post-emergence treatment of plants (columns 7-8; and claims 6-15).

***Ascertainment of the difference between the prior art and the claims***

**(MPEP 2141.02)**

Walker '677 does not teach R<sup>2</sup> being selected from n-propyl or butyl, as instantly claimed. However, Thiele teaches compounds that are structurally similar and have C<sub>1-4</sub> at the equivalent position as R<sup>2</sup> of Walker '677.

**Finding of *prima facie* obviousness**

**Rational and Motivation (MPEP 2142-43)**

Therefore, it would have been *prima facie* obvious for one skilled in the art at the time of the invention to substitute n-propyl or butyl in the R<sup>2</sup> position of Walker '677 because Thiele teaches compounds which meet the limitations Walker '677 and has C<sub>1-4</sub> at the position equivalent to R<sup>2</sup> of Walker '677. Therefore, one of ordinary skill in the art would expect methyl, ethyl, n-propyl and butyl at the R<sup>2</sup> position of Walker '677 to have similar properties.

Also, A *prima facie* case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979). See *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (discussed in more detail below) and *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991). See also MPEP § 2144.09, paragraph I.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

3. Claims 1-7 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,168,319 (hereinafter Walker '319) in view of Thiele.

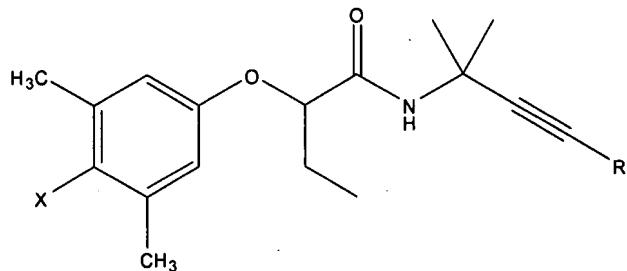
**Applicant claims:**

Applicants claim a compound of formula (I) (instant claim 1). Applicants further claim a composition comprising said compound and a method of combating or controlling phytopathogenic fungi comprising applying said compound.

***Determination of the scope and content of the prior art***

**(MPEP 2141.01)**

Walker '319 teaches compounds of the formula:



in which

X is bromine or methyl, preferably bromine; and

R is hydrogen or methyl, preferably methyl (column 1, lines 23-58).

Walker '319 also teaches the compounds N-(1,1-dimethylpropargyl)-2-(4-bromo-3,5-dimethylphenoxy)butyramide, N-(1,1-dimethyl-2'-butyryl)-2-(4-bromo-3,5-dimethylphenoxy)butyramide, N-(1,1-dimethylpropargyl)-2-(3,4,5-trimethylphenoxy)-butyramide (columns 3-5; Table I; Compound Numbers 1-3).

Furthermore, Walker '319 teaches a composition comprising said compounds, as well as a method of controlling the growth of mildew comprising applying to the locus

thereof an mildewicidally effective amount of said compounds, wherein mildewicide refers to a compound useful for controlling the growth of fungi (column 1, lines 61-68; column 2, lines 1-3; and claims 1-8). Walker '319 teaches applying said compounds to any environmental area that supports the growth and development of mildew fungi (column 1, lines 63-68 and column 2, line 1).

***Ascertainment of the difference between the prior art and the claims***

**(MPEP 2141.02)**

Walker '319 does not teach R being selected from n-propyl or butyl, as instantly claimed. However, Thiele teaches compounds that are structurally similar and have C<sub>1-4</sub> at the equivalent position as R of Walker '319.

**Finding of *prima facie* obviousness**

**Rational and Motivation (MPEP 2142-43)**

Therefore, it would have been *prima facie* obvious for one skilled in the art at the time of the invention to substitute n-propyl or butyl in the R position of Walker '319 because Thiele teaches compounds which meet the limitations Walker '319 and has C<sub>1-4</sub> at the position equivalent to R of Walker '319. Therefore, one of ordinary skill in the art would expect methyl, ethyl, n-propyl and butyl at the R position of Walker '319 to have similar properties.

Also, A *prima facie* case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. "An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds

similar in structure will have similar properties." *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979). See *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (discussed in more detail below) and *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991). See also MPEP § 2144.09, paragraph I.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Schlientz whose telephone number is 571-272-9924. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan W. Schlientz  
Patent Examiner  
Technology Center 1600  
Group Art Unit 1616

  
SABIHA QAZI, PH.D  
PRIMARY EXAMINER

---

Sabiha Qazi  
Primary Patent Examiner  
Technology Center 1600  
Group Art Unit 1616